

AMENDMENTS TO THE CLAIMS

29. (Currently Amended) A method of co-planarizing copper or copper-based metallurgy and a refractory metal-based barrier layer or liner in an interlevel dielectric layer of a semiconductor device comprising the steps of:

planarizing said copper or copper-based metallurgy using a first slurry comprising an oxidizing agent comprising ferric nitrate, an oxidation inhibitor, a surfactant comprising ~~sodium octyl sulfate~~ and an abrasive comprising alumina in water; said first slurry having a pH of between 1.2 and 2.5 and said first slurry for removing copper selectively with respect to said barrier layer or liner; and

co-planarizing said barrier layer or liner and said interlevel dielectric layer using a second slurry comprising consisting of a peroxide agent, ~~an oxidation~~ a copper oxidation inhibitor, a surfactant comprising ~~sodium octyl sulfate~~, and an abrasive comprising silica in water; said second slurry having a pH of between 3.0 and 7.5 and said second slurry for removing said barrier layer or liner.

30. (Canceled)

31. (Canceled)

- [[32.]] 33.(Currently Amended) The method of ~~claim 33~~ claim 32, wherein the first removal rate is about eight times greater than the second removal rate.

- [[33.]] 32.(Currently Amended) The method of claim 29, wherein said second slurry removes said barrier layer or liner at a first removal rate and copper at a second removal rate, the first removal rate greater than the second removal rate.

34. (New) The method of claim 29, wherein said peroxide agent comprises hydrogen peroxide.

35. (New) The method of claim 29, wherein said copper oxidation inhibitor comprises BTA.
36. (New) The method of claim 29, wherein said surfactant regulates complexing between copper and the copper oxidation inhibitor.
37. (New) The method of claim 36, wherein said surfactant comprises sodium lauryl sulfate.
38. (New) The method of claim 29, wherein said abrasive comprises colloidal silica.